

BEFORE THE
POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

Inquiry Concerning City Carrier Costs

Docket No. PI2017-1

RESPONSES OF THE UNITED STATES POSTAL SERVICE TO
QUESTIONS 1-10 OF CHAIRMAN'S INFORMATION REQUEST NO. 2

The United States Postal Service hereby provides its responses to the above-listed questions of Chairman's Information Request No. 2, issued on July 17, 2017. Each question is stated verbatim and followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorney:

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1. Please refer to the Response to Order No. 2792. The Postal Service stated that it was "investigating the feasibility of using operational data to estimate variability equations for LDCs 23 and 27." Response to Order No. 2792 at 19. As its first step in the investigation, the Postal Service stated that it would try to match relevant workhours from its Time and Attendance Collection System (TACS) with the corresponding volumes recorded in the Product Tracking and Recording (PTR) system. *Id.*
 - a. Please discuss the results of the Postal Service's investigation into the use of operational data to estimate the variability equations for LDCs 23 and 27.
 - b. Please discuss any additional steps taken by the Postal Service since its Response to Order No. 2792 to investigate the feasibility of using operational data to estimate variability equations for LDCs 23 and 27.
 - c. Please discuss the route evaluation process for special purpose routes, including the data that are collected. If special purpose routes are not evaluated, please specify the reasons why.

RESPONSE:

- a. Estimation of a variability equation for Special Purpose Route time recorded in LDCs 23 and 27 requires, for example, matching the volumes delivered by SPR carriers with times associated with those deliveries. The Postal Service's initial efforts to match times and volumes across the two operational data systems were not promising, because of initial inconsistencies in the recording of PTR data as the system was developing, and difficulties associated with identifying the relevant times from TACS. This later difficulty arose, in part, because SPR carriers often do not follow regular routes, so there is no readily available identifier like route number to link delivered volumes and the resulting delivery times. Another challenge was that SPR hours may constitute just a portion of a carrier's day, with the balance of the time incurred in letter route

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activities recorded in LDCs 21 and 22. As a result, care must be taken to associate any SPR-delivered parcels for that carrier with the exact times the carrier was clocked into SPR activities. The results of the initial effort suggested it was unlikely that a suitable dataset could be produced.

b. Subsequent research into attempting to match the two data systems has been more promising. More recent PTR data appear more complete and seem to provide a reasonable basis for capturing the total volumes of parcels and accountables delivered on a given day. In addition, the Postal Service is currently researching different possible methods of accurately linking volumes and times that do not depend upon traditional identifies like route number. For example, the Postal Service is attempting to link, for each individual carrier, the recorded delivery time for each delivered package with the associated clock rings for that carrier. Because there are typically over 10 million packages delivered each day, this is a challenging programming task.

c. The procedures and expenses for route evaluations on special purpose routes are similar to those for letter routes. Examiners observe and record activity times and corresponding volumes for the route being evaluated. As is done on letter routes, examiners on special purpose routes also document whether the observed carrier follows the proper procedures, including but not limited to following safety protocols and traversing the route efficiently. Because the movements and types of volume on special purpose routes are generally not similar to letter routes, different data collection forms are used for route

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inspections on special purpose routes. For Parcel Post and Combination routes, Postal Form 1838-A is used for route evaluations, while for collection routes, Postal Form 3999-B is used. Copies of those forms are included in USPS-PI2017-1/1. Route evaluations, regardless of the route type, generally require an additional person, often at higher than the average city carrier wage, per route. This dedication of an additional full-time employee to the route evaluation implies that each one has a high labor resource cost, so the potential utility of the information collected must be weighed against the cost of the evaluation, before a SPR route evaluation is conducted. When the cost of the evaluation exceeds the benefit of the information collected, it is irrational to conduct the evaluation.

While procedures and data collection forms exist for conducting route evaluations on special purpose routes, they are, in fact, rarely performed, because generally the benefits do not exceed the costs. This is due to the dissimilar nature of SPR routes as compared to letter routes. On letter routes, carriers generally service the same set of delivery points using the same line of travel daily. The similarity of daily activities results in route evaluations providing useful information for designing a delivery network in which routes encompass approximately eight hours of work daily. The information is valuable because the days that the letter routes are evaluated are, in a sense, typical of the nature of that route, so adjustments can be made based on the resulting information.

However, route evaluations on special purpose routes do not provide those same benefits. As explained in Docket No. ACR2016, in response to ChIR

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13, Item 6b (February 10, 2017), special purpose routes are often not “routes” in the sense that the way the term route is commonly used. Parcel Post and Combination routes, for example, do not typically service the same set of delivery points or have the same line of travel on a daily basis. Thus, information collected on route evaluations of Parcel Post and Combination routes may not accurately reflect the activities on the “route” on a regular basis. Hence, costly route evaluations are rarely conducted on Parcel Post and Combination routes, because the information collected does not lend itself to management decisions to improve efficiency.

Formal street evaluations on collection routes, which generally do service the same collection points in the same line of travel daily, are also rarely done. In this instance, such is the case because Collection routes also often have *ad hoc* activities caused by, for example, an irregular collection run to a firm. Thus, the information collected from street evaluations on Collection routes is also not particularly useful for managing SPR time.

Further evidence as to the general lack of usefulness of route evaluations on special purpose routes is that the Postal Service has never maintained a national database of route evaluations on special purpose routes.

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2. Please refer to the Postal Service's Response to CHIR No. 1. The Postal Service states that it identified the National Collection Point Management (CPMS) density test as one possible source of operational data that could possibly be used as a proxy for mail collected from customers' receptacles. Response to CHIR No. 1, question 2. However, it found that the mail volumes recorded in the CPMS density test are not an acceptable proxy for the volumes of mail collected from customer receptacles. *Id.*
- a. Handbook F-65, the Data Collection Users Guide for Cost Systems, states that for the City Carrier Cost System (CCCS), the "PS Form 2846 is used to report the volume of mail collected [from customers' receptacles] as the carrier delivers the mail."¹ Please discuss whether the volumes of mail collected by the CCCS from customers' receptacles on the sampled city carrier letter route-days could be weighted (e.g., by using zones rather than ZIP Code or route number) so that street time could be linked to the collection mail volumes reported on PS Form 2846.² If such an approach appears feasible, please discuss how the PS Form 2846 data could be weighted or adjusted and linked to street time. If such an approach appears to be infeasible, please provide the reasons why weighted or adjusted PS Form 2846 data could not be linked to street time.
 - b. Please discuss whether it would be feasible to record mail collection volumes on the Mobile Delivery Devices (MDDs) employed by the Postal Service. If not, please explain why.

RESPONSE:

- a. Further investigation is needed to determine whether customer collection volume captured on CCCS could be *accurately* weighted to estimate the customer collection volume at the ZIP Code level. Because CCCS is a stratified sample of route-days, all weighting methods to the ZIP Code-day level are necessarily biased, but its degree needs to be investigated. Some crude weighting methods such as using the

¹ The United States Postal Service Handbook F-65, Data Collection Users Guide for Cost Systems, Chapters 3 & 4, July 21, 2009, Zip file "Handbook_65_New_Chapters_3_and_4.zip," file "Chapter 3_Print, pdf,," at 3-16 (Handbook F-65).

² Handbook F-65 also states that the CCCS data collector is supposed to ask the city carrier on that sampled route to classify parcels as regular or deviation parcels. *Id.* at 3-8-3-9.

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number of routes or possible deliveries in the ZIP Code likely would be ineffective because of the heterogeneity often found between routes within ZIP Codes. Consider a ZIP Code with fifteen routes and 8,700 possible deliveries. This ZIP Code consists of 9 routes which are Park and Loop, 4 routes that are Curblin, and 2 that are Central. Assume that each park and loop route has 500 deliveries, each curblin route has 600 deliveries, and each central route has 900 deliveries. Suppose CCCS selected a central route from this ZIP Code and this route is a "typical" day on a Central route, meaning that it has less delivered and collected volume than on "typical" Park and Loop and Curblin routes. To make the example a bit more concrete, assume that each Central route receives 100 pieces of customer collection mail, each Park and Loop Route receives 150 pieces of customer collection mail, and each Curblin route receives 200 pieces of customer collection mail. The ZIP Code thus receives 2,350 pieces.

Weighting the customer collected volume measured by CCCS on the Central route, using either the number of routes in the ZIP, or the number of possible deliveries, is going to underestimate the customer collection volume, because the average customer collection volume on the sampled route is less than that for the other types of routes in the ZIP Code. Specifically, using the number of routes as the weight will produce an estimated ZIP Code volume of only 1,500 pieces and using the number of delivery points produces a ZIP Code volume of just 967 pieces. Similarly, if a "typical" curblin route, which generally has more delivered and collected volume than Park and Loop and Central routes, was selected, the estimated customer collection volume for

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the ZIP Code would be overestimated. In the example, weighting by the number of routes would produce an estimated ZIP Code volume of 3,000 pieces. In sum, while weighting methods could be used to inflate measured customer collection volume by CCCS to the ZIP Code day, these methods are biased, potentially significantly. This is an important problem because the appropriate level of analysis at which to estimate a variability equation is the ZIP Code.

Another issue with this approach is the nature of the data collected for the econometric models. Because CCCS conducts only approximately 10 thousand tests annually, this approach likely limits the dataset used in the econometric models to one in which the vast majority of ZIP Codes would only have one day of weighted data.

b. An investigation has started on the feasibility of capturing customer collection volume through the MDDs, and the initial findings show promise. In its response to ChIR No. 1 in the instant docket, the Postal Service said that during the density test, the MDDs are used to measure collection volume from dedicated collection points. For service reasons, dedicated collection points have barcodes, which the carrier scans and, during the Density Test, is subsequently prompted for a volume measure. For MDDs to be used for customer collection volume, a barcode would have to be used to prompt the carrier to enter customer collection volume at some point along the route. Investigating the feasibility of establishing this as an ongoing data collection process requires algorithmic and software changes, which must be designed and tested. Thus, MDD collection volumes will not be available in the immediate near term,

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but the approach appears to be sufficiently feasible to justify additional investigation, and the Postal Service is continuing to pursue that.

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3. Please refer to the Postal Service's Response to CHIR No. 1. The Postal Service states that "inconsistencies between the ways routes are identified in [Delivery Operations Information System (DOIS)] DOIS with the ways they are identified in [the] PTR [system] precluded making matches at the route level." Response to CHIR No. 1, question 1. "Consequently, PTR parcel and accountable data were collected at the ZIP Code level..." *Id.*
- a. Please provide a detailed explanation of the inconsistencies in how routes are identified in the DOIS, the PTR, and the MDDs data.³
 - b. Please explain how these inconsistencies were resolved at the ZIP Code level. Please include in the response the necessary steps required for the databases to be compatible at the ZIP Code level by delivery date.
 - c. Please specify how the special purpose route data in the same ZIP Code were identified in the DOIS, the PTR and the MDDs data.
 - d. Please specify whether all special purpose route data within a ZIP Code were removed from the DOIS, the PTR, and the MDD data to produce the PTR July 2016 (300 ZIP Codes) parcel proportions by type.

RESPONSE:

a. DOIS uses the Address Management System (AMS) for a comprehensive list of city letter routes. The carrier delivery scans performed by MDDs populate PTR. Generally, routes are determined in MDDs by the carrier as the scanner is initialized. Because routes are not consistently identified between the data sources, inconsistencies occur in route assignments between data sources. For example, suppose the data are for the eleventh carrier route in ZIP Code 12345. A typical way to identify this route in the Postal Service's data systems might be 345C011. But, it might also be identified as 345C11 or 345CO11 or 345.11 or 12345C011 or 345011 or C011

³ The Postal Service explains that the MDDs data feeds into the PTR system and the MDDs have a functionality that enable the carrier to indicate the delivered location for the packages and accountable items they scan at delivery and could potentially, for parcels with delivery barcodes, be a source of separate counts of in-receptacle parcels and deviation parcels. Response to Order No. 2792 at 7.

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(which becomes more problematic if a station delivers to more than one ZIP code). The inconsistency in route identification across the systems makes it infeasible to match hours and volumes at the route level.

The route-level inconsistency is worsened by pivoting. Consider a hypothetical office which has a vacant route because the carrier is on leave. Often, this will result in pivoting as two other carriers handle the vacant route. Suppose the vacant route is number C005 and the carriers delivering mail on routes C001 and C002 split the deliveries for the uncovered route. If routes C001, C002, and C005 have 20, 30, and 40 parcels, respectively. Further assume the carrier working route C002 delivers 30 of the 40 parcels destined for route C005 and the carrier working route C001 delivers the remaining 10. It is quite possible that one of pivoting carriers will not adjust the route number in the MDD for the parcels delivered on route C005. Suppose that is the carrier that usually delivers route C002. This carrier will record route C002 for all the parcels delivered, thus reporting a total of 60 parcels for that route. Under this scenario the PTR parcels will be correct for the ZIP Code, but erroneous for two of the three routes. The following table displays the actual parcel volumes by route as well as the volumes recorded in PTR.

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Route	Actual	PTR
C001	20	20
C002	30	60
C005	40	10
Total	90	90

One additional problem may occur specifically when the route in question happens to be a SPR route. One or both systems may use a “dummy” route as the route identifier, and this may be used on multiple SPR routes. Route S999, for example, can be used for any number of SPR routes in a station resulting in impossibly large volumes and hours.

The result is that the PTR parcel volume for route C001 is accurate, but the volumes for routes C002 and C005 are inaccurate because the carrier failed to change the route number on the MDD. This is not a problem for ZIP Code volumes, as the route assignment does not matter for calculating volumes at that level.

b. The ZIP Code where the parcel is being delivered is captured through the barcode located on the package, rather than by an input made by the carrier. This results in a more accurate parcel volumes.

c. Carriers scan packages with MDDs and information is reported in PTR. Thus, the source of the relevant information in PTR comes from the scans performed by MDDs. The initialization process, by user, of the MDD provides information about the

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type of carrier and that is also captured by PTR. Thus, special purpose route data were determined in PTR from MDD data. DOIS does not have reliable information about special purpose routes, so it was not used to identify special purpose route data.

d. Theoretically yes. The intent was to remove all volume delivered by SPR before computing the PTR parcel proportions by type shown in response to ChIR 1, Item 1 in the instant docket.

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4. Please refer to the Postal Service's Response to CHIR No. 1. The Postal Service states that "further research using PTR data in econometric analyses is necessary before reaching a definitive conclusion as to whether PTR is a reliable data source." Response to CHIR No. 1, question 1. Please explain whether the Postal Service intends to perform the research necessary to reach a definitive conclusion, and, if so, what type of research it will perform and when it is likely to be completed.

RESPONSE:

As stated in the question, additional research using PTR data in econometric analyses is necessary before reaching a definitive conclusion as to whether PTR is a reliable data source, but, depending on the results, pursuit of that research will not necessarily produce a definitive conclusion. The Postal Service is currently pursuing the additional econometric research, and that research takes the form of attempting to estimate a top-down variability equation using PTR data as a source of volumes for parcels and accountables. That research is likely to be completed in the next three weeks.

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5. Please refer to the Postal Service's Response to CHIR No. 1. The Postal Service notes that since the "deployment of MDDs was relatively recent, the Postal Service wanted to ensure that its selected data did not incorporate any temporary 'learning curve' errors that could lead to an erroneous inference that the PTR data were unreliable." *Id.* A USPS News Link Story dated June 15, 2015, states that "[t]he Postal Service plans to distribute more than 260,000 MDDs altogether."⁴ In Docket No. ACR2016, Library Reference USPS-FY16-8,⁵ a specific number for equipment labeled "MDDs" per se does not appear to have been included in the Excel file "fy16equip.xls." However, in the Excel file "FY16 IMD Scanner Key INPUT.xls," on the "Page III-2" tab, equipment numbers for the "Intelligent Mail Devices by User Type" are provided. Column G is labeled "Proposed Quantity" and shows 234,477 for "City & Rural Routes."
- a. Please provide the reason(s) for the difference between "Proposed Quantity" versus actual deployment (and use) of the "Intelligent Mail Devices" for city carriers and rural carriers.
 - b. Please explain the differences between Intelligent Mail Device (IMD) scanners and MDDs.
 - c. If the "Proposed Quantity" number shown in Column G contains a mix of IMD scanners and MDDs, please specify the number of each type of scanner by carrier route type (city or rural).
 - d. Please provide the approximate number of city carrier routes that currently employ MDD technology on a daily or near-daily basis.
 - e. Please provide a list and description of each data element, including all possible scans, captured by carriers using the MDDs.

RESPONSE:

a. The 260,000 figure includes replacement scanners, and the 234,477 figure is the current number of city and rural routes.

b. Intelligent Mail Device (IMD) scanners are USPS legacy devices (Motorola HC700) without internal cellular communication capability. Mobile Delivery Device

⁴ See USPS News Link Story: MDD deployment nears completion, June 15, 2015, available at <https://link.usps.com/2015/06/15/mobile-milestone>.

⁵ Docket No. ACR2016, Library Reference USPS-FY16-8, December 29, 2016.

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(MDD) scanners are Honeywell 99-EX devices with integrated cellular capability.

Accordingly, the MDDs are able to record and transmit carrier scans “instantly” so the customer knows the status of a package delivery. Moreover, the MDDs have GPS functionality and the IMDs do not.

c. Approximately 230,000 scanners are used by carriers daily of which roughly 4 to 5 thousand, or two percent, are IMDs. Approximately 70 percent of the IMDs are used on city routes and the remaining 30 percent are used on rural routes.

d. Approximately 159,000 MDDs are deployed daily to city carriers. MDDs are used on both letter and special purpose routes.

e. Please see the MDD information provided in USPS-PI2017-1/1 in response to question 10 of this Information Request.

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6. The Postal Service notes that the City Carrier Cost System-Special Purpose Route (CCCS-SPR) system is similar to the CCCS in that both are continuous, ongoing cross-sectional statistical studies or probability samples of route-days. They differ in that the CCCS samples letter route-days while the CCCS-SPR samples special purpose route-days.⁶ Approximately 1,000 CCCS-SPR samples are scheduled each fiscal year. *Id.* at 16. In Docket No. RM2009-10 (Proposal Eight), the Postal Service provided the TACS LDC 23 number of routes in the CCCS-SPR sample frame by stratum, the TACS LDC 23 street hours by stratum, as well as the proportion of special purpose routes and route days sampled.⁷
- a. Please provide this same CCCS-SPR information for each FY 2016 quarter.
 - b. Please provide the total number (universe) of TACS LDC 23 routes for each FY 2016 quarter.
 - c. Please provide the components used to calculate the proportion of route days sampled in the CCCS-SPR system for each FY 2016 quarter.
 - d. Please discuss whether the annual sample of CCCS-SPR route-days delivered volumes could potentially be linked to a route evaluation (if one was conducted) to update the special purpose route cost model. If not, please discuss the reasons why.

RESPONSE:

a. and b. See the following table for CCCS-SPR information for each FY2016 quarter. An Excel file with the same content entitled ChIR.2.Q.6.Table_CCCS-SPR is included in USPS-PI2017-1/1.

⁶ See Docket No. ACR2016, Library Reference USPS-FY16-34, "USPS-FY16-34_CCCS_Preface_Final.pdf," December 29, 2016, at 1, 3, 16.

⁷ Docket No. RM2009-10, Responses of the United States Postal Service to Chairman's Information Request No. 1, September 29, 2009, question 6.

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PQ1FY16 (76 delivery days in the quarter)					
Stratum	TACS Routes	TACS Street Hours (two pay periods)	Proportion of Routes Sampled	Proportion of Route Days Sampled	# of Tests in the Stratum
C1	2,262	256,656	0.05959	0.00078	135
C2	485	143,661	0.15556	0.00205	75
C3	2,105	41,994	0.01048	0.00014	22
C4	924	35,154	0.01998	0.00026	18
Total in Frame	5,776	477,464			
Excluded from Frame	25,368	50,106			
Total TACS LDC 23	31,144	527,570			
PQ2FY16 (75 delivery days in the quarter)					
Stratum	TACS Routes	TACS Street Hours (two pay periods)	Proportion of Routes Sampled	Proportion of Route Days Sampled	# of Tests in the Stratum
C1	2,305	252,199	0.05031	0.00067	116
C2	637	198,367	0.14319	0.00191	91
C3	2,503	49,636	0.00912	0.00012	23
C4	1,058	45,134	0.01962	0.00026	21
Total in Frame	6,503	545,336			
Excluded from Frame	27,620	60,786			
Total TACS LDC 23	34,123	606,122			
PQ3FY16 (77 delivery days in the quarter)					
Stratum	TACS Routes	TACS Street Hours (two pay periods)	Proportion of Routes Sampled	Proportion of Route Days Sampled	# of Tests in the Stratum
C1	2,489	264,702	0.04495	0.00058	112
C2	670	213,299	0.13456	0.00175	90
C3	3,362	64,471	0.00811	0.00011	27
C4	1,174	50,781	0.01828	0.00024	21
Total in Frame	7,695	593,253			
Excluded from Frame	31,642	77,765			
Total TACS LDC 23	39,337	671,018			
PQ4FY16 (77 delivery days in the quarter)					
Stratum	TACS Routes	TACS Street Hours (two pay periods)	Proportion of Routes Sampled	Proportion of Route Days Sampled	# of Tests in the Stratum
C1	2,349	262,745	0.05094	0.00066	120
C2	646	191,761	0.13518	0.00176	87
C3	2,301	46,126	0.00913	0.00012	21
C4	1,110	49,988	0.02051	0.00027	23
Total in Frame	6,406	550,621			
Excluded from Frame	25,660	54,587			
Total TACS LDC 23	32,066	605,208			

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c. The proportion of route days sampled equals the ratio of the number of tests sampled in the stratum to the product of the number of TACS routes in stratum in the frame by the number of delivery days in the quarter. In formulaic terms,

$$Prop\ Route\ Days\ Sampled_{Stratum} = \frac{Tests_{Stratum}}{Frame\ TACS\ Routes_{Stratum} \times Num\ Delivery\ Days_{Quarter}}$$

d. It is unlikely that the delivered volumes collected from CCCS-SPR could be linked to a route evaluation to update the special purpose route cost model for several reasons. First, route evaluations are rarely done for SPR routes, so the Postal Service does not maintain a database of such evaluations. Second, CCCS-SPR does not currently sample Collection routes, so a large percentage of SPR time could not be analyzed. Third, when done, route evaluations for Parcel Post/Combination routes include the delivered volume. Hence, even in the unlikely event that the CCCS-SPR test and route evaluation were conducted on the same day, there would not be any additional information obtained from CCCS-SPR. See Postal Form 1838-A, provided in response to Item 1 from this ChIR. Hence, it is unlikely that data from CCCS-SPR could be used to update the SPR cost model.

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7. Please provide the definition for each of the values used in the "SS1," "SS2," "SS3," and "SS4" SAS variables field of the CCCS-SPR SAS data set provided in Docket No. ACR2016.⁸

RESPONSE:

The SAS variables "SS1," "SS2," "SS3," and "SS4" indicate the extra services (used to be "Special Services", hence the variable names SS1, SS2, etc.) for the mail piece. Since a mail piece may have more than one but fewer than five extra services, we have four variables for the Data Collectors to enter the extra services for the piece.

The values for SS1 – SS4 are as the following:

1: Postage Due
2: Business Reply
3: Certified
4: COD
5: Insured
6: Registered
7: Return Receipt
8: Delivery Confirmation
9: Signature Confirmation
A: Adult Signature Required
B: Adult Signature Restricted Delivery
C: USPS Tracking Number (or USPS Signature Tracking)
X: Other Services

⁸ See Docket No. ACR2016, Library Reference USPS-FY16-34, "USPS-FY16-34_CCCS_Preface_Final.pdf," December 29, 2016, at 35.

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8. Please provide the cost and revenue analysis format file used in the SAS program "SPR_Output_V10.sas" file. *Id.* at 29.

RESPONSE:

The format file entitled format.sas7bdat is included in USPS-PI2017-1/1.

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9. This question seeks information related to updates and procedures employed by the Postal Service since the issuance of Order No. 2792.⁹ The Postal Service stated that for subsequent years, cost pools would be updated using the "Route Evaluation System data" and that a data extract would be done that "in general, follow[s] the same criteria discussed in Section D of the Report, but a change in circumstances could necessitate review of those criteria."¹⁰
- a. Please describe what the Postal Service would consider a "change in circumstances."
 - b. Please describe the methodology and screening criteria steps for the cost pool proportions developed in Docket No. ACR2015. Please address in the response whether each of the following screening criteria steps were employed for the route evaluation data and the number eliminated for each screening step listed: (1) the evaluation was done prior to certain years; (2) the evaluation reported data that were captured on Sunday; (3) the evaluation reported a negative value for one or more of the directly attributable street time activities; (4) the evaluation reported gross street time of over 12 hours; and (5) the evaluations reported negative gross street time.
 - i. Please explain whether each of the same screening criteria discussed in Section D of the Report (pages 9-14) were applied to develop the FY 2015 cost pool proportions. If the same screening criteria and methodology were not applied to the FY 2015 data, please specify how the FY 2015 methodology and screening criteria steps differed from those described in Section D of the Report as well as the number eliminated by screening step employed.
 - ii. Please provide the number of route evaluations used to develop the FY 2015 cost pool proportions by the month and the year that the evaluations were conducted. Please explain any notable seasonal patterns in this distribution.
 - c. Please describe the methodology and screening criteria steps for the cost pool proportions developed in Docket No. ACR2016. Please address in

⁹ See Docket No. RM2015-7, Order Approving Analytical Principles Used in Periodic Reporting (Proposal Thirteen), October 29, 2015 (Order No. 2792).

¹⁰ Docket No. RM2015-7, Responses of the United States Postal Service to Questions 1-16 and 19-28 of Chairman's Information Request No. 1, January 12, 2015, question 3. The report referred to by the Postal Service is the Report on the City Carrier Street Time Study in Docket No. RM2015-7, Library Reference USPS-RM2015-7/1, "Letter_Route_Report" folder in the "City Carrier Street Time Study Report.pdf" file, December 11, 2014 (Report).

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the response whether each of the following screening criteria steps were employed for the route evaluation data and the number eliminated for each screening step listed: (1) the evaluation was done prior to certain years; (2) the evaluation reported data that were captured on Sunday; (3) the evaluation reported a negative value for one or more of the directly attributable street time activities; (4) the evaluation reported gross street time of over 12 hours; and (5) the evaluations reported negative gross street time.

- i. Please explain whether each of the same criteria discussed in Section D of the Report (pages 9-14) were applied to develop the FY 2016 cost pool proportions. If the same screening criteria and methodology were not applied to the FY 2016 data, please specify how the FY 2016 methodology and screening criteria steps differed from those described in Section D of the Report and the number that were eliminated by the screening step employed.
 - ii. Please provide the number of route evaluations used to develop the FY 2016 cost pool proportions by the month and the year that the evaluations were conducted. Please explain any notable seasonal patterns in this distribution.
- d. Is the "Route Evaluation System" data referred to in the preface of this question exclusively "Form 3999" data? If not, please identify the data sources and explain how they are used in the development of the cost pool proportions.
- e. Please explain whether the Postal Service has taken any steps to gather counts of collection volumes, accountables, and parcels as part of its ordinary "Form 3999" route evaluation process. If the Postal Service has taken any such steps, please report on its progress. If not, please explain.
- f. Please identify the average time between the Postal Service's periodic evaluations of a given route in the "Form 3999" route evaluation data system and describe any factors that cause this time to change.
- g. Please describe the Postal Service's data retention policy with respect to "Form 3999" data. In particular, are data from route evaluations prior to the most recent evaluation for a route retained, and if so, for how long?

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RESPONSE:

a. In the context of filtering the Form 3999 data, a change in circumstance would be an adjustment to the delivery network that would invalidate one or more of the screening criteria. If, for example, the Postal Service decided to use its letter routes for Sundays delivery, then the screening criterion that eliminates route evaluations performed on Sundays would need to be removed.

b. i. Criteria (1)-(5) were applied to develop the cost pool proportions for ACR2015. However, note that route evaluations that failed a criterion were only eliminated once. Thus, if a route evaluation occurred in 2008 (criterion (1)) and also on Sunday (criterion (2)), it would not be included as being eliminated by criterion (2) because it was removed with criterion (1). Criterion (0) is the complete set of Form 3999s downloaded before any adjustments, and criterion (6) is the final number of Form 3999s used in forming the cost pool proportions in Docket No. ACR2015. Table 1 shows sequentially the criteria that were applied and the number eliminated by each filter.

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Table 1: ACR2015 Form 3999s Removed by Criterion

Criterion No.	Criterion Description	No. Form 3999s Before Criterion Applied	No. Form 3999s Removed to Criterion	Remaining Form 3999s
(0)	Complete Set	111,547	0	111,547
(1)	Eval > Dec 31, 2012	111,547	0	111,547
(2)	Eval done Mon-Sat	111,547	160	111,387
(3)	Nonnegative values for the following: a) Sector Segment Hours, b) Parcel Hours, c) Accountable Hours, d) Relay Hours, e) Travel To Hours, f) Travel From Hours, g) Travel Within Hours, and h) Blue Collect Hours	111,387	411	110,976
(4)	Gross Street Hours > 12	110,976	43	110,933
(5)	Gross Street Hours < 0	110,933	48	110,885
(6)	Set used for FY 2015 Cost Pool Proportions	110,885	0	110,885

ii. As the previous table shows, 110,885 route evaluations were used to form the cost pool proportions for Docket No. ACR2015. Table 2 shows the distribution of route evaluations by year and month. One main purpose of street evaluations is to design routes so that they require eight hours on a normal delivery day. This means that route evaluations should be done during relatively normal periods of delivery. Moreover, conducting a route evaluation takes considerable resources because it requires the dedication of a full time employee (in addition to the carrier) to the route. Route evaluations are, as a result, quite expensive in terms of employee time. Finally, inclement weather can provide a distorted measurement of the time it takes to deliver a

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route volume. Because of these reasons, one would expect that a higher proportion of street evaluations are conducted between March and October. The data used to form cost pool proportions for FY 2015 are consistent with that expectation, as 91 percent of the evaluations were performed between March and October. This is the period that letter routes are more likely to experience a typical day and the Postal Service is more likely to have resources available to conduct the evaluations.

Table 2: ACR2015 Distribution of Form 3999s by Year and Month

FY 2015	Year		
Month	2014	2015	Total
January	-	2,803	2,803
February	-	2,966	2,966
March	-	8,011	8,011
April	-	11,678	11,678
May	-	12,401	12,401
June	-	12,131	12,131
July	-	10,472	10,472
August	768	11,500	12,268
September	4,307	16,717	21,024
October	5,138	7,597	12,735
November	3,327	-	3,327
December	1,069	-	1,069
Total	14,609	96,276	110,885

c. i. Criteria (1)-(6) were applied to develop the cost pool proportions for ACR2016. Two changes were made in the criteria applied in ACR2016 compared to ACR2015. First, criterion (1) was changed to only include the previous two fiscal years, rather than calendar years. Second, an additional criterion (6) was added to insure that the calculated street hours (sum of sector segment hours, parcel hours, accountable hours, relay hours, travel within hours, travel to hours, travel from hours, and blue box

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collection hours) from the Form 3999s were not greater than the gross street hours from the Form 3999.

Similar to ACR2015, in ACR2016, route evaluations that failed a criterion were only eliminated once. Thus, if a route evaluation occurred in 2008 (criterion (1)) and occurred on Sunday (criterion (2)), it would not be included as being eliminated in criterion (2) because it was removed with criterion (1). Criterion (0) is the complete set of Form 3999s downloaded before any adjustments, and criterion (7) is the final number of Form 3999s used in forming the cost pool proportions in Docket No. ACR2016. Table 3 shows sequentially the criteria that were applied and the number eliminated by each filter.

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Table 3: ACR2016 (Filed) Form 3999s Removed by Criterion

Criterion No.	Criterion Description	No. Form 3999s Before Criterion Applied	No. Form 3999s Removed to Criterion	Remaining Form 3999s
(0)	Complete Set	142,776		142,776
(1)	Eval > Sept 30, 2014	142,776	0	142,776
(2)	Eval done Mon-Sat	142,776	19,524	123,252
(3)	Nonnegative values for the following: a) Sector Segment Hours, b) Parcel Hours, c) Accountable Hours, d) Relay Hours, e) Travel To Hours, f) Travel From Hours, g) Travel Within Hours, and h) Blue Collect Hours	123,252	614	122,638
(4)	Gross Street Hours > 12	122,638	66	122,572
(5)	Gross Street Hours < 0	122,572	61	122,511
(6)	Calc Str Hrs < Gross Str Hrs	122,511	124	122,387
(7)	Set used for FY 2016 Cost Pool Proportions	122,387	0	122,387

¹The route evaluations are read into SAS from an Excel workbook and the dates of the 3999s were erroneously imported as being from 2071 through 2076, rather than 2011 through 2016. Thus, this criterion (1) resulted in no Form 3999s being eliminated from the cost pool proportions. There were 1,910 route evaluations that should have been deleted by this criterion. In addition, the criterion should have been constructed to remove route evaluations done after September 30, 2016. It did not, and that resulted in an additional 130 route evaluations being included in the computation of the FY 2016 cost pool proportions. Errors in the FY 2016 cost pool proportions were acknowledged and corrected in Docket No. RM2017-8, Proposal Four at 3 (footnote 6).

²In the Form 3999 dataset there were not 19,524 route evaluations conducted on Sunday. However, erroneously reading in the year as acknowledged in note 1 resulted in 19,524 route evaluations being removed from the calculation of the cost pool proportions.

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Table 4 shows the impact of the filtering process when the correct dates for the Form 3999s are used. Using the correct dates added more than 17 thousand to the corrected filtered set, for a total in excess of 139 thousand route evaluations. The corrected set was used in Docket No. RM2017-8, Proposal Four.

Table 4: ACR2016 (Corrected) Form 3999s Removed by Criterion

Criterion No.	Criterion Description	No. Form 3999s Before Criterion Applied	No. Form 3999s Removed to Criterion	Remaining Form 3999s
(0)	Complete Set	142,776		142,776
(1)	Sept 30, 2014 < Eval < Sept 30, 2016	142,776	2,040	140,736
(2)	Eval done Mon-Sat	140,736	195	140,541
(3)	Nonnegative values for the following: a) Sector Segment Hours, b) Parcel Hours, c) Accountable Hours, d) Relay Hours, e) Travel To Hours, f) Travel From Hours, g) Travel Within Hours, and h) Blue Collect Hours	140,541	701	139,840
(4)	Gross Street Hours > 12	139,840	75	139,765
(5)	Gross Street Hours < 0	139,765	79	139,686
(6)	Calc Str Hrs < Gross Str Hrs	139,686	138	139,548
(7)	Set used for Revised FY 2016 Cost Pool Proportions	139,548	0	139,548

ii. As Table 3 (Filed) shows, 122,387 route evaluations were used to form the cost pool proportions for ACR2016. Table 5 shows the distribution of route evaluations used in ACR2016 by year and month. A primary purpose of street evaluations is to design a delivery network where routes normally have eight hours of work. Moreover, conducting route evaluations is expensive and resource intensive. Thus, it not surprising that a high proportion of them are conducted between May and October, because that is the

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period in which resources are more likely to be available and the probability is higher of experiencing e a typical day. For the purposes of calculating the cost pool proportions for ACR2016, 84 percent were performed between March and October, which is a lower percentage compared to ACR2015 where 91 percent were conducted between March and October.

Table 5: ACR2016 (Filed) Distribution of Form 3999s by Year and Month

FY 2016			Year				
Month	2011	2012	2013	2014	2015	2016	Total
January	0	0	15	13	184	4,688	4,900
February	0	6	9	34	321	7,198	7,568
March	0	13	18	65	603	11,420	12,119
April	0	5	31	142	817	14,168	15,163
May	2	13	24	187	945	14,325	15,496
June	0	4	23	116	1,086	12,603	13,832
July	2	2	30	151	1,369	8,903	10,457
August	0	1	22	231	1,412	11,740	13,406
September	1	9	35	277	2,483	11,388	14,193
October	0	16	66	216	7,650	124	8,072
November	2	6	46	127	5,258	-	5,439
December	1	4	31	31	1,675	-	1,742
Total	8	79	350	1,590	23,803	96,557	122,387

As was done with the filtering criteria, a distribution by month and year with the correct dates for the route evaluations is shown in Table 6. Even though the number of evaluations changed considerably, there were still approximately 84 percent of the evaluations done between March and October.

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Table 6: FY 2016 (Corrected) Distribution of Form 3999s by Year and Month

FY 2016	Year			
Month	2014	2015	2016	Total
January	-	211	5,080	5,291
February	-	352	8,344	8,696
March	-	708	12,803	13,511
April	-	935	16,250	17,185
May	-	1,059	17,193	18,252
June	-	1,342	14,887	16,229
July	-	1,541	10,228	11,769
August	-	1,738	14,152	15,890
September	-	2,807	12,834	15,641
October	234	8,461	-	8,695
November	140	6,380	-	6,520
December	35	1,834	-	1,869
Total	409	27,368	111,771	139,548

Because erroneous dates from the Form 3999s was read into the program that filters the data and calculates the cost pool proportions, it is worth investigating the impacts of those mistakes on the ACR2016 cost pool proportions. As Tables 5 and 6 show, the corrected dataset has more than 17 thousand additional route evaluations when compared with the set used to compute the cost pool proportions in ACR2016. Table 7, however, shows the filed (ACR) and corrected (RM2017-8, Proposal Four) cost pool proportions. The differences are minute despite erroneously removing over 17 thousand route evaluations in ACR2016, which shows the robustness of the cost pool proportions and demonstrates the homogeneity of street activities in the letter route network.

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Table 7: ACR2016 Filed and Corrected Street Time Proportions

City Carrier Letter Route	ACR2016	ACR2016
Street Time Proportions	Filed	Corrected (RM2017-8)
REGULAR DELIVERY	78.32%	78.28%
IR PARCEL DELIVERY	4.41%	4.41%
PARCEL/ACCOUNTABLE DELIVERY AND TRAVEL	5.40%	5.40%
GENERAL COLLECTIONS	0.27%	0.27%
PRIORITY MAIL EXPRESS COLLECTIONS	0.00%	0.00%
TRAVEL TO/FROM PROPORTION	5.20%	5.15%
RELAY PROPORTION	3.65%	3.73%
NETWORK TRAVEL	2.75%	2.76%
TOTAL	100.00%	100.00%

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d. The data used to form the cost pool proportions are recorded on Form 3999.

e. Form 3999 does not collect volume information. The commonly referenced "Form 3999 database" filed in USPS-RM2015-7/1 contained volume measures from DOIS. Accordingly, the volume measures associated with those route evaluations included volumes for DPS letters, cased letters, cased flats, FSS flats, sequenced mail, and parcels (larger than a shoebox or heavier than two pounds). Because the Postal Service has no plans to make the necessary expensive software changes to modify DOIS to capture daily measures of accountable or customer collection volumes, those counts will not appear on future "Form 3999 databases". The Form 3999 route evaluation process utilizes volumes measured by Delivery Operation Information System (DOIS).

f. The Postal Service intends to use local management, roughly once a year, to accompany carriers on their routes to observe them in the performance of their duties to insure that routes are delivered in a safe, effective, and efficient manner. Based on the unfiltered set of Form 3999s filed in USPS-RM2017-8/1, empirical estimates can be developed. The filed set has 142,776 route evaluations. For each route, the data in this set represent the latest route evaluation conducted, and the set contains route evaluations performed through October 3, 2016. Thus, the number of days between route evaluations is computed by finding the number of days between October 3, 2016 and the date of the last evaluation (value in the field date_last_3999 -column D). A

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frequency distribution by the number of days and the mean and median amount of days between evaluations are illustrated in Table 8

Table 8: Frequency Distribution Days between Street Route Evaluations

Form 3999s (Unfiltered) USPS- RM2017-8/1		
Duration (Days)Between Route Evaluations (Form 3999s)	Routes	Cumulative Proportion
Duration <= 91.25 (1 Quarter) Days	37,151	26.0%
91.25 < Duration <= 182.50	48,686	60.1%
182.50 < Duration <= 273.75	27,092	79.1%
273.75< Duration <= 365 (1 Year)	16,101	90.4%
365 (1 Year) < Duration <= 730 (2 Years)	11,813	98.6%
Duration > 730 (2 Years)	1,933	100.0%
Total	142,776	
Mean Duration	189	
Median Duration	158	

Table 8 shows that 60 percent of the routes have had an evaluation within the past six months, and that 90 percent of the routes have had an evaluation done within the past year (using October 3, 2016 as the baseline). The mean number of days between evaluations is 189 and the median number of days is 158. In sum, the table demonstrates that the Postal Service is closely following its intention of performing street route observations on each route at least roughly once each year.

g. DOIS maintains a complete archive of Form 3999s, by route. The archive dates back to the creation of DOIS, starting as early as 2000 with a phased deployment that continued until 2006.

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- 10.** Please provide a descriptive name associated with each field in the TACS, PTR, MDD, DOIS, and Form 3999 databases. For each field in the respective database, please also provide a list and the meaning of the possible values.

RESPONSE:

The requested information for the PTR, MDD, DOIS, and Form 3999 databases is included in USPS-PI2017-1/1. The corresponding information regarding TACS is still being prepared, but will be provided on a supplemental basis when available.